

EAST Search History

Ref #	Hits	Search Query	DBS	Default Operator	Plurals	Time Stamp
L4	435	PIEZOS AND (CONDUCT\$5 WITH POWDER) AND (POLYMER\$4 WITH POWDER)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2007/09/23 16:32
L5	69	PIEZOS AND (CONDUCT\$5 WITH POWDER) AND (POLYMER\$4 WITH POWDER) and (polypyrrole polythiophene polyaniline polyacetylene)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2007/09/23 16:32
S1	6	JP-08036917-\$.DID. JP-09302246-\$.DID. JP-09321363-\$.DID. JP-2001294642-\$.DID. JP-2003152234-\$.DID. JP-2004254497-\$.DID.	JPO	OR	ON	2007/09/23 15:52
S2	4	PIEZOS AND (CONDUCT\$5 WITH POWDER) AND (POLYMER\$4 WITH POWDER) AND (DOPED OR DOPANT OR DOPING) AND (ION WITH DONOR)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2007/09/23 16:31
S7	31	PIEZOS AND (polypyrrole polythiophene polyaniline polyacetylene) AND (DOPED OR DOPANT OR DOPING) AND (ION WITH DONOR)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	ON	2007/09/23 15:29

PAT-NO: JP409321363A
**DOCUMENT-
IDENTIFIER:** JP 09321363 A
TITLE: PIEZOELECTRIC TRANSFORMER AND ITS SUPPORT
STRUCTURE

PUBN-DATE: December 12, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
KITAMI, TAKESHI	
ISOBE, KANICHI	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
NEC CORP	N/A

APPL-NO: JP08136701

APPL-DATE: May 30, 1996

INT-CL (IPC): H01L041/107 , H01L041/22

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a downsized transformer with a high pressure rise ratio by reducing the chipping of a piezoelectric body in manufacturing, improving reliability by preventing the transformer from breaking, improving both operation efficiency and the rate of nondefective products by facilitating handling at the manufacturing step, preventing noise in the audio-frequency area by controlling the oscillation of an unnecessary mode and facilitating designing.

SOLUTION: A piezoelectric body 1 has a columnar shape. The column is separated into a driving part 12 and a power generating part 13 along the axis, a plurality of electrodes 141,..., 14n, which are potentially a pair and separate the driving part into a plurality of areas along the axis of the column are provided on the side of the driving part 12, and the plurality of areas are polarized in the alternately reverse directions along the axis of the column. An electrode which becomes a pair with the nearest electrode 141 to the power generating part of the driving part is provided on the power generating part 13 and is polarized in one of the directions along the axis of the column.

PAT-NO: JP02001294642A

DOCUMENT-IDENTIFIER: **JP 2001294642 A**

TITLE: POLYURETHANE ELASTOMER-BASED ACTUATOR

PUBN-DATE: October 23, 2001

INVENTOR-INFORMATION:

NAME	COUNTRY
MATSUMOTO, SHINSUKE	N/A
KANEMATSU, AKIHITO	N/A
NISHIKAWA, MASAKO	N/A
IZUKAWA, TSUKURU	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
IMITSUI CHEMICALS INC	N/A

APPL-NO: JP2000107954

APPL-DATE: April 10, 2000

INT-CL (IPC): C08G018/38, C08G018/62 , H01L041/08

ABSTRACT:

PROBLEM TO BE SOLVED: To obtain a polyurethane elastomer-based actuator having excellent electrostriction characteristics.

SOLUTION: The polyurethane elastomer-based actuator is produced from a polyisocyanate and at least one kind of polyol selected from a polyol having amide group and a polyol containing a polymer having amide group. The water content of the polyurethane elastomer-based actuator is 0.01-50 wt.% and the actuator has a property to amplify the strain caused by the orientation of the polyurethane elastomer in the direction of electric field applied to the elastomer in a water-containing state.

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PAT-NO: JP02003152234A

DOCUMENT-IDENTIFIER: **JP 2003152234 A**

TITLE: ACTUATOR AND ITS MANUFACTURING METHOD

PUBN-DATE: May 23, 2003

INVENTOR-INFORMATION:

NAME	COUNTRY
ITO, HIDETOSHI	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
SONY CORP	N/A

APPL-NO: JP2001350524

APPL-DATE: November 15, 2001

INT-CL (IPC): H01L041/08, H01L041/26

ABSTRACT:

PROBLEM TO BE SOLVED: To suppress the displacement amount of elastic deformation and the deterioration in the response speed of an actuator when the actuator is elastically deformed.

SOLUTION: The actuator is elastically deformed by applying a voltage across plate-like electrode 2a and 2b between which an electrolytic layer 3 is arranged. The electrodes 2a and 2b are provided with a conductive polymer and conductive materials brought into contact with the polymer. Since the conductive materials have powdery structure, meshlike structure, or porous structure, the deterioration of the electrical contact between the conductive polymers and conductive materials can be prevented when the actuator is elastically deformed. Consequently, the displacement amount of the elastic deformation and the deterioration in the response speed of the actuator when the actuator is elastically deformed can be suppressed.

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PAT-NO: JP02004254497A

DOCUMENT-IDENTIFIER: **JP 2004254497 A**

TITLE: ACTUATOR AND ITS USE

PUBN-DATE: September 9, 2004

INVENTOR-INFORMATION:

NAME	COUNTRY
ZAMA, TETSUJI	N/A
HARA, SUSUMU	N/A
SEWA, SHINGO	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
EAMEX CO	N/A

APPL-NO: JP2004025763

APPL-DATE: February 2, 2004

PRIORITY-DATA: 2003025009 (January 31, 2003)

INT-CL (IPC): H02N011/00

ABSTRACT:

PROBLEM TO BE SOLVED: To provide an actuator using an operating part including a conductive polymer, in which a plurality of leads connected to the operating part are not cut by an external force or the expansion or contraction of the operating part, and prevents a voltage drop so as to fully display the elasticity of the conductive polymer without hindering the elasticity of the conductive polymer.

SOLUTION: The actuator 1 has an operating part 2, a counter electrode 3 and an electrolyte 9. A plurality of leads are connected to the operating part to apply a voltage to the operating part and the counter electrode via the electrolyte. At least one of the leads has conductive shock absorbers 71 and 72.

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PAT-NO: JP409302246A

DOCUMENT-IDENTIFIER: JP 09302246 A

TITLE: FUNCTIONAL POLYMER ELEMENT AND ITS PRODUCTION

PUBN-DATE: November 25, 1997

INVENTOR-INFORMATION:

NAME

SHIMODA, SATORU

ASSIGNEE-INFORMATION:

NAME	COUNTRY
CASIO COMPUT CO LTD	N/A

APPL-NO: JP08124692

APPL-DATE: May 20, 1996

INT-CL (IPC): C08L101/12, C08L101/12 , F16J003/02 , H02N011/00 , B41J002/045
, B41J002/055

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a functional polymer element which functions when voltage is applied thereto and which can easily be made minute.

SOLUTION: A conductive polymer film 3 wherein the main chains 3a of conductive polymer molecules are arranged in almost the same direction is formed on the surface of a metal film 2 to give a functional polymer element 1. Voltage is applied between the metal film 2 and an electrode which faces thereto through the polymer film 3 and an electrolyte layer (an electrolyte liq. or film) adjacent thereto, causing the ion transfer between the polymer film 3 and the electrolyte layer. Thus the vol. of the polymer film 3 is changed, and the metal film 2 is distorted together with the polymer film 3.

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PAT-NO: JP408036917A

DOCUMENT-IDENTIFIER: **JP 08036917 A**

TITLE: FERROELECTRIC POLYMER SINGLE CRYSTAL, METHOD OF ITS
MANUFACTURE, AND PIEZOELECTRIC ELEMENT, PYROELECTRIC
ELEMENT AND NONLINEAR OPTICAL ELEMENT USING THE METHOD

PUBN-DATE: February 6, 1996

INVENTOR-INFORMATION:

NAME
DAITO, KOJI
OMOTE, KENJI
GOMYO, TERUHISA

ASSIGNEE-INFORMATION:

NAME	COUNTRY
YAMAGATA UNIV	N/A

APPL-NO: JP06173921

APPL-DATE: July 26, 1994

INT-CL (IPC): H01B003/00, B29C055/00 , C08J005/18 , D01F006/12 , H01B003/44
, H01F001/00 , H01L037/02 , H01L041/08 , C08L027/12

ABSTRACT:

PURPOSE: To allow lamella crystal to grow in a certain direction in a membrane plane by preparing ferroelectric polymer consisting of a copolymer of ethylene trifluoride or tetrafluoride and vinylidene fluoride in the form of a film or fiber.

CONSTITUTION: Polyvinylidene fluoride and ethylene tri- or tetra-fluoride are mixed to prepare a membrane using dimethyl formamide as a solvent, and the obtained membrane is uniaxially elongated approximately five times as large at room temp. The Curie point of the membrane is 123°C while the melting point is 150°C. The two membrane ends perpendicular to the elongating direction are fixed and the temp. is raised from room temp. at a rate of approx 5°C/min, crystallized in the air at a temp. of 140°C, followed by slowly cooling to the room temp. The resultant ferroelectric polymer consisting of copolymer of these crystals and vinylidene fluoride is shaped in a film or

fiber. The singlecrystal film has good orientation of molecular chain and a good degree of crystallization, and its poling film exhibits a large polarization so that the piezoelectric coefficient and the electro-mechanical coupling factor are increased.

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